

Exhibit 300: Capital Asset Summary

Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview & Summary Information

Date Investment First Submitted: 2010-03-22
Date of Last Change to Activities: 2012-02-24
Investment Auto Submission Date: 2012-02-27
Date of Last Investment Detail Update: 2012-02-27
Date of Last Exhibit 300A Update: 2012-03-01
Date of Last Revision: 2012-08-14

Agency: 010 - Department of the Interior **Bureau:** 10 - Bureau of Reclamation

Investment Part Code: 01

Investment Category: 00 - Agency Investments

1. Name of this Investment: BOR1-GCPO SCADA (Grand Coulee Power Office Supervisory Control and Data Acquisition System)

2. Unique Investment Identifier (Ull): 010-000000292

Section B: Investment Detail

- 1. Provide a brief summary of the investment, including a brief description of the related benefit to the mission delivery and management support areas, and the primary beneficiary(ies) of the investment. Include an explanation of any dependencies between this investment and other investments.**

This investment is justified and in line with Interior's proud history of providing critical and essential water services to the American public. It directly supports the efficient delivery of water and power services to millions across the Pacific-NorthWest. It also supports multiple organizational GPRA goals, including the efficient delivery of water and power services, the sustained delivery of water and power services (no or limited service disruptions), and the efficient delivery of critical infrastructure and recreational services to communities. This investment contributes to other corollary goals associated with maintaining wildlife and biological species. The Grand Coulee Power Office (GCPO) (Supervisory Control and Data Acquisition) SCADA system is based on a legacy-architecture (mainframe-based) SCADA system with a central, redundantly-configured master station communicating with numerous remotely-located plant control/interface/termination units in a hierarchical control scheme. This system has been in place, though upgraded, over 20+ years. It enables personnel to monitor conditions and operationally control events at two of the major dams and power plants in the Pacific Northwest (PN) Region of the United States. These two facilities, Grand Coulee and Hungry Horse, provide flood control, irrigation, hydropower production, recreation, and navigation benefits to a wide cross-section of commercial, industrial and governmental organizations and users. The GCPO SCADA also supports, through

communications links to a partner agency (the Bonneville Power Association), limited control of the hydropower production capabilities at both Grand Coulee and Hungry Horse. Failure of the system would result in the loss of the ability of the Grand Coulee Project to do the following: accomplish load following and regulation, operate to optimize efficiency, and effectively control voltage in the 500kV and 230kV switchyards. At present, well over 12 million water and power consumers are provided services by these legacy systems. For these reasons, it is imperative that the system remain operational and that the replacement system project be completed by no later than 2015. A delay could jeopardize water and power services to the Pacific Northwest.

2. How does this investment close in part or in whole any identified performance gap in support of the mission delivery and management support areas? Include an assessment of the program impact if this investment isn't fully funded.

By volume, the Columbia is the fourth-largest river in the U.S., and it has the greatest flow of any North American river draining into the Pacific Ocean. The Grand Coulee Dam is foundational to the Columbia River Power System. It provides water storage, flood control, power and recreational opportunities. This directly supports the mission of Reclamation to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. The SCADA system being replaced provides an automated means to accomplish these mission objectives. The USBR conducted several extensive alternatives analysis for a replacement to the existing SCADA system investment that has been in operation for approximately 20 years. These were accomplished in 2001, 2006, 2007, and 2008. In 2006, the USBR issued an RFP inclusive of a technical specification to which there were two credible responses. In 2008, a previously rejected alternative and an existing US Government investment (via BPA and USACE) was revisited and chosen to be the best option. This option was a COTS-based GOTS product from the US Army Corps of Engineers (USACE) called GDACS, Generic Data Acquisition and Control System. Appropriated funds are not requested; however, without BPA funding, there would be a potential for the following events - a) The SCADA system would eventually fail making it impossible to provide water and power services at current levels leaving millions w/out water and/or power in the Pacific Northwest. b) Operating the facilities would become a more labor intensive undertaking due to the unit control boards being located adjacent to the generators and pumps. This would increase operating costs substantially. c) Hiring, training, and certifying enough personnel to control the facilities 24x7x365, allowing for sufficient spare personnel for absenteeism, would be required to ensure the ability to respond to BPA generation requirements. The additional staffing requirement would be in excess of \$4M per year, and loss of automatic generation control due to running the system in manual mode would be estimated at an additional loss of approximately \$500K per year.

3. Provide a list of this investment's accomplishments in the prior year (PY), including projects or useful components/project segments completed, new functionality added, or operational efficiency achieved.

GDACS: - Completed 9 RTU Commissionings. - Completed ~\$1M in h/w & s/w procurements. - Mapboard FAT & SAT. - Installed final network hardware. - Network and software/hardware training. - DDS Alarm and Event app release. - RTU DDS app release. GCPO SCADA legacy system: - ongoing operations and maintenance of existing legacy system. - decommissioning portions as GDACS segments are implemented.

4. Provide a list of planned accomplishments for current year (CY) and budget year (BY).

GDACS (CY): - Return 15 RTUs to Operations. - Right Powerhouse under GDACS control.
GDACS (BY): - Deliver GDACS with Switchyard control functionality. - Return 3 RTUs to Operations. - Return first of three Grand Coulee Switchyards to Operations. - Third Powerplant under GDACS control. GCPO SCADA legacy system (BY and CY): - ongoing operations and maintenance of existing legacy system. - decommissioning portions as GDACS segments are implemented.

5. Provide the date of the Charter establishing the required Integrated Program Team (IPT) for this investment. An IPT must always include, but is not limited to: a qualified fully-dedicated IT program manager, a contract specialist, an information technology specialist, a security specialist and a business process owner before OMB will approve this program investment budget. IT Program Manager, Business Process Owner and Contract Specialist must be Government Employees.

2011-08-31

Section C: Summary of Funding (Budget Authority for Capital Assets)

1.

Table I.C.1 Summary of Funding

	PY-1 & Prior	PY 2011	CY 2012	BY 2013
Planning Costs:	\$0.6	\$0.0	\$0.0	\$0.0
DME (Excluding Planning) Costs:	\$17.0	\$3.3	\$1.6	\$0.9
DME (Including Planning) Govt. FTEs:	\$3.7	\$5.0	\$5.6	\$5.0
Sub-Total DME (Including Govt. FTE):	\$21.3	\$8.3	\$7.2	\$5.9
O & M Costs:	\$4.5	\$0.5	\$0.7	\$0.9
O & M Govt. FTEs:	\$7.1	\$0.8	\$1.3	\$1.3
Sub-Total O & M Costs (Including Govt. FTE):	\$11.6	\$1.3	\$2.0	\$2.2
Total Cost (Including Govt. FTE):	\$32.9	\$9.6	\$9.2	\$8.1
Total Govt. FTE costs:	\$10.8	\$5.8	\$6.9	\$6.3
# of FTE rep by costs:	92	40	44	40
Total change from prior year final President's Budget (\$)		\$-1.1	\$0.0	
Total change from prior year final President's Budget (%)		-10.80%	0.00%	

2. If the funding levels have changed from the FY 2012 President's Budget request for PY or CY, briefly explain those changes:

BY12 passback submission: No changes were made to the BY12 submission from September 2010. This is in line with BY12 passback guidance.

Section D: Acquisition/Contract Strategy (All Capital Assets)

Table I.D.1 Contracts and Acquisition Strategy

Contract Type	EVM Required	Contracting Agency ID	Procurement Instrument Identifier (PIID)	Indefinite Delivery Vehicle (IDV) Reference ID	IDV Agency ID	Solicitation ID	Ultimate Contract Value (\$M)	Type	PBSA ?	Effective Date	Actual or Expected End Date
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NONE

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:

Earned Value is / will be required - where applicable.

Exhibit 300B: Performance Measurement Report

Section A: General Information

Date of Last Change to Activities: 2012-02-24

Section B: Project Execution Data

Table II.B.1 Projects

Project ID	Project Name	Project Description	Project Start Date	Project Completion Date	Project Lifecycle Cost (\$M)
1	Grand Coulee & Hungry Horse Supervisory Control and Data Acquisition Replacement	Replace the current SCADA system (developed and installed by CAE in the 1980's/1990's) serving both Grand Coulee and Hungry Horse (HH) facilities with the USACE GOTS GDAC system. o Replace major hardware components including; a master station, dispatcher consoles, remote consoles, data backup system, off-line programming console, emergency backup console and 44 Remote Terminal Units (RTU).			

Activity Summary

Roll-up of Information Provided in Lowest Level Child Activities

Project ID	Name	Total Cost of Project Activities (\$M)	End Point Schedule Variance (in days)	End Point Schedule Variance (%)	Cost Variance (\$M)	Cost Variance (%)	Total Planned Cost (\$M)	Count of Activities
1	Grand Coulee & Hungry Horse Supervisory Control and Data Acquisition							

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Replacement

Key Deliverables

Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
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NONE

Section C: Operational Data

Table II.C.1 Performance Metrics

Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
Hydropower Automation Provide automatic generation control: Percent of time automatic generation control service is available to customers	% time auto gen. control srvc is available	Customer Results - Service Accessibility	Over target	99.900000	99.900000	99.900000	99.900000	Semi-Annual
UIM.3.2.1.0412 Percent of time that Bureau of Reclamation hydroelectric generating units are available to BPA during daily peak summer demand periods	% time hydroelctrc gen. units availbl to BPA	Mission and Business Results - Services for Citizens	Over target	99.900000	99.900000	99.900000	99.900000	Semi-Annual
Through the collection of financial data, identify operations and maintenance costs for the facility.	O and M actual costs within 10% variance of budget	Process and Activities - Productivity	Under target	10.000000	10.000000	1.000000	5.000000	Semi-Annual
UIO.3.2 Improve power generation management to maximize supply	Kilowatt Hours (KWH)	Technology - Reliability and Availability	Under target	95.000000	99.000000	99.000000	99.000000	Semi-Annual
Assure reliability of SCADA system	% time SCADA-G system is in forced outage	Technology - Reliability and Availability	Under target	0.100000	0.100000	0.100000	0.100000	Monthly